

Types P341 and P342 Manual Latches and Types P389 and P631 Pneumatic Actuators

Introduction



WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Fisher® equipment must be installed, operated, and maintained in accordance with federal, state, and local codes and Fisher instructions. The installation in most States must also comply with NFPA No. 58 and ANSI K61.1 standards.

Only personnel trained in the proper procedures, codes, standards, and regulations of the LP-gas industry should install and service this equipment.

Scope of Manual

This manual covers instructions for installing the Types P341 and P342 manual latches and Types P389 and P631 pneumatic actuators for the Type C407-10 internal valve.

Type P341—Latch/remote release mechanism that permits remote valve closure. The valve is opened manually. A built-in fusible element will release at 212°F (100°C) and allow the valve to close. Factory type number for the Type P341 installed is C407M10.

Type P342—Latch/bi-directional remote release mechanism that permits remote valve closure from two directions. The valve is opened manually. A built-in fusible element will release at 212°F (100°C) and allow the valve to close. Factory type number for the Type P342 installed is C407MB10.

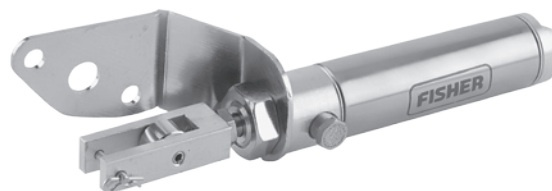
Type P389—Pneumatic cylinder that allows remote opening and closing of the valve.

Pressure source for Type P389: 60 psig (4,14 bar) minimum to 250 psig (17,2 bar) maximum air, propane or NH₃.



P1140

Figure 1. Type P341 Latch/Remote Release Mechanism



P1109

Figure 2. Type P389 Pneumatic Cylinder



P1133

Figure 3. Type P631 Pneumatic Actuator Installed in Type C407-10 Internal Valve

Types P341, P342, P389, and P631

Type P631—Pneumatic actuator that allows remote opening and closing of the valve.

Pressure source for Type P631: 20 psig (1,4 bar) minimum to 40 psig (2,76 bar) maximum air. Recommended 20 to 25 psig (1,4 to 1,7 bar).

Installation



WARNING

If the Type C407-10 valve is installed in a pressurized tank, insure that the line pressure is 0 psi (0 bar) prior to beginning installation of Type P341, P342, P389, or P631. Failure to depressurize the line could result in personal injury.

Ref: MCK-1172—Instruction manual for Type C407-10 internal valve.

Remote Release—(See Figure 5). To install the Type P341 or P342 latch mechanism, first remove the operating lever (key 18) and take off the cover plate (key 56) by removing the two cap screws (key 17). The new cover plate/latch assembly can be attached to the valve with the same cap screws. Tighten the screws to 25 or 30 inch-pounds (2,8 or 3,5 N•m) torque.

A cable must be run from the pull ring(s) (key 7) on the Type P341 or P342 to the release handle (Type P650 or P651 can be used) located at a remote point. The Type P342 allows two cables to be run in different directions to two remote locations without additional pulleys. The cable must be taut for proper operation, and the hookup may require sufficient pulleys to keep the cable away from the side of the tank. Pulling the release handle allows the manual operating lever to return to the closed position. The fusible link in the mechanism will melt if exposed to fire, allowing the valve to close.

When closing the valve manually, pull back on the pull ring (key 7) attached to the release mechanism to permit the valve lever to close.



WARNING

Since there is strong spring force on the operating lever, avoid getting in the way of the lever as it moves to the closed position. Failure to do so could result in personal injury.

Air Operation—Type P631 cylinder actuators can be installed on the valves to provide remote air operation. Minimum operating pressure for the cylinder is 20 psig (1,4 bar); maximum cylinder pressure is 100 psig (6,9 bar).

Remove downstream pressure. There must be no downstream pressure in the Type C407-10 internal valve while installing the Type P631 air cylinder. To install the

Type P631, (refer to Figure 4 for Type C407-10 Internal Valve and Figure 6 for Type P631), first remove the manual operating lever (key 18) and the cotter pin (key 19). Take off the cover plate (key 56) by removing the two cap screws (key 17). Place the Type P631 actuator on the valve. Insert the operating lever into the Type C407-10 stem with the cotter pin (key 19). Then secure Type P631 with the two cap screws (key 17), tightening them to 25 to 30 inch-pounds (2,8 or 3,5 N•m) torque.

After installing the unit, operate the cylinder with pressure to see that it smoothly opens and closes the internal valve without sticking or jamming.

Air Operation—Type P389 cylinder actuators can be installed on the valves to provide remote air operation. Minimum operating pressure for the cylinder is 60 psig (4,14 bar); maximum cylinder pressure is 250 psig (17,2 bar).

Remove downstream pressure. There must be no downstream pressure in the Type C407-10 internal valve while installing the Type P389 air cylinder. To install the Type P389, (refer to Figures 4 and/or 7), first remove the manual operating lever (key 18). Take off the cover plate (key 56) by removing the cap screws (key 17). Place the Type P389 actuator on the valve and secure it with the two cap screws (key 17), tightening them to 25 to 30 inch-pounds (3 or 3,5 N•m) torque. Insert the operating lever (key 18) through the clevis assembly between the roller and the clevis pin. Secure the operating lever (key 18) to the Type C407-10 stem with the cotter pin (key 19). Loosen the clevis on the cylinder rod and adjust it so that there is some small movement of the operating lever before it begins to open the internal valve. Tighten the clevis nut to hold the clevis at this position. Connect the actuating pressure line tubing to the end of the cylinder. The operating lever should not rub on the side of the clevis.

Maintenance

A simple preventive maintenance program for the valve and its controls will eliminate a lot of potential problems. **Fisher® recommends these steps be conducted once a month:**

1. Regularly inspect the operating lever to see that it operates freely and that there is no leakage around the stub shaft. If there is leakage or sticking, the packing should be replaced.
2. Check for tight closure of the seat disks regularly. Any leakage indicates a defect in the seat caused from wear or from dirt or scale lodging and embedding the seat. To check for leakage, close the internal valve and exhaust downstream pressure. Close the first valve downstream from the internal valve, and note any pressure build-up by means of a pressure gauge. If leakage is indicated, the seat disks should be replaced.
3. Because the Type P389 actuator has a diaphragm seal, internal lubrication is not required. Periodic lubrication of the operating lever/cylinder rod pivot is recommended.

Types P341, P342, P389, and P631

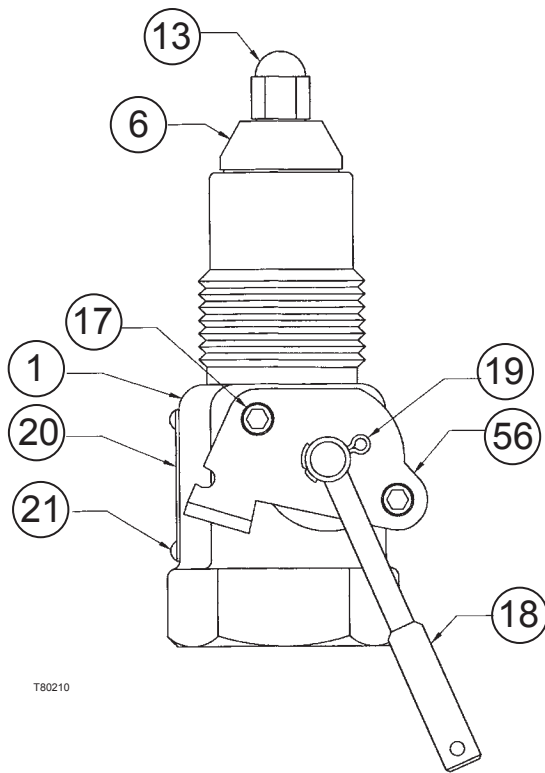


Figure 4. Type C407-10 Internal Valve Assembly

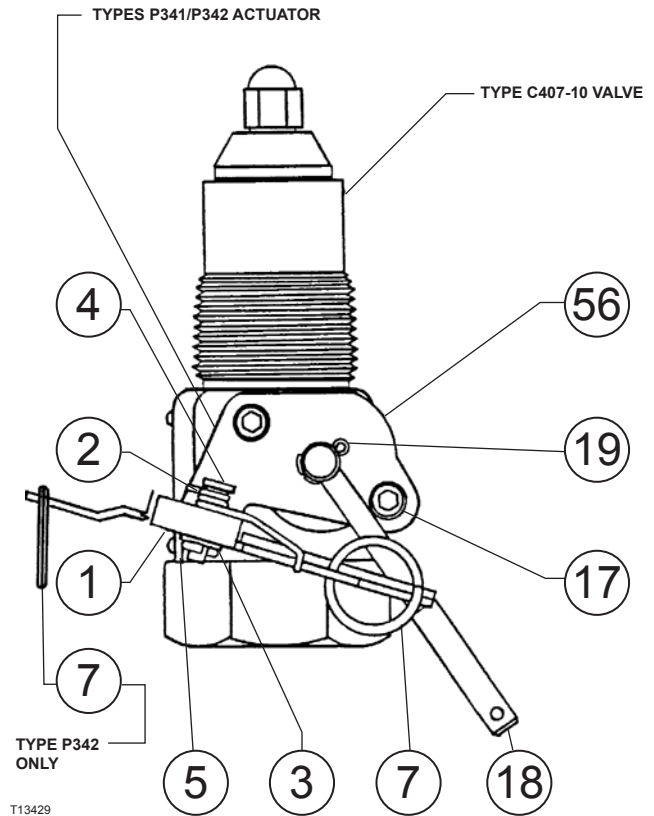


Figure 5. Type P341 or P342 Installed in Type C407-10 Internal Valve

Check to see that the cylinder fully opens and closes the internal valve without sticking. A build-up of mud, corrosion, or foreign material could prevent the cylinder from closing, jamming the internal valve open. Do not permit this condition to occur.

4. All operating controls should be regularly inspected and cleaned and oiled. Periodic lubrication of the operating lever/clevis pivot is recommended.
5. The Type P631 actuator comes standard with a cover to protect the internal parts (air bellows, spring, and other parts) from the elements and fouling. This also protects the operator from moving parts. This can be periodically removed in order to clean and inspect the mechanism. After inspection, it is important to replace this cover BEFORE repressurizing and operating the unit.

Parts Ordering



CAUTION

The Type P631 Actuators are produced with common automotive components, customized specifically for use with Fisher® valves. Fisher recommends contacting your local distributor for replacement bellows.

When corresponding about this equipment, always reference the equipment type number found on the nameplate. A Replacement Parts List is available for the valve. When ordering replacement parts, reference the complete 11-character part number of each part. The bellows on the Type P631 is GE29660X012. The Type P389 air cylinder is not repairable.

Types P341, P342, P389, and P631

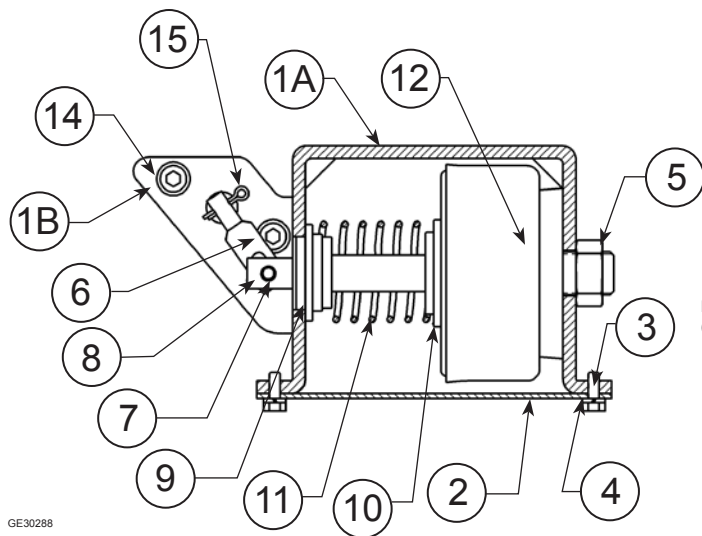


Figure 6. Type P631 Pneumatic Actuator

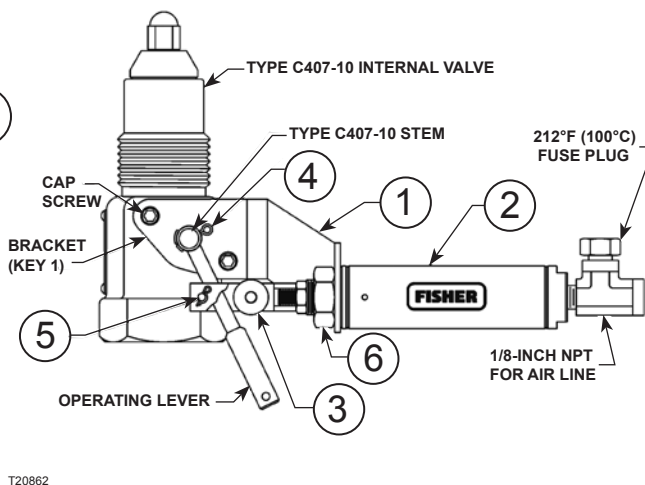


Figure 7. Type P389 Installation

Parts List

Types P341 and P342 (Figure 5)

Key	Description	Part Number
1	Latch Type P341 Type P342	T13418T0012 T13519T0012
2	Spring	T13417T0012
3	Washer	T1173324152
4	Clevis Pin	T13416T0012
5	Cotter Pin	1A339328982
6	Cover Plate/Bracket	T20849T0012
7	Pull Ring Type P341 Type P342 (2 required)	T13419T0012 T13419T0012

Type P631 (Figure 6)

Key	Description	Part Number
1	Bracket	GE31063X012
2	Cover	GE31061X012
3	Screw, Hex Head (2 required)	16A5763X012
5	Nut	1A3192K0012
6	Lever	GE29676X012
7	Roll Pin	GE29683X012
8	Rod	GE29677X012
9	Spring Seat, Upper	GE29679X012
10	Spring Seat, Lower	GE29680X012
11	Spring	GE29681X012
12	Air Bellows	GE29660X012

Type P389 (Figure 7)

Key	Description	Part Number
1	Bracket	T40431T0012
2	Air Cylinder	T13441T0012
3	Roller/Rod End Assembly	T13437T0022
4	Clevis Pin	T13440T0012
5	Hairpin Clip	T13442T0012
6	Nut Fuse Plug (1/8-inch NPT)	1A946324122 T1140399982

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